## [University_of_Washington_Quad,_Spring_2007.jpg](http://www.evolutionnews.org/2015/04/these_critics_o095561.html)These Critics of Intelligent Design Agree with Us More Than They Seem to Realize

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### *Winston Ewert April 27, 2015 3:18 PM |*[*Permalink*](http://www.evolutionnews.org/2015/04/these_critics_o095561.html)

At *Panda's Thumb*, Joe Felsenstein and Tom English have written a post, "[Fitness surfaces and searches: Dembski, Ewert, and Marks's search for design](http://pandasthumb.org/archives/2015/03/fitness-surface.html)." That is in reply to William Dembski's article at *ENV*, "[Responding to My Talk at the University of Chicago, Joe Felsenstein's Argument by Misdirection](http://www.evolutionnews.org/2014/10/responding_to_m090271.html)," which in turn was a response to another post by Felsentein at *Panda's Thumb*, "[Dembski's argument in Chicago -- New? Persuasive?](http://pandasthumb.org/archives/2014/10/dembskis-argume.html)" The discussion concerns conservation of information, including active information and search for the search -- ideas developed by William Dembski, Robert Marks, and myself at the [Evolutionary Informatics Lab](http://www.evoinfo.org/). Felsentein ([University of Washington geneticist](http://evolution.genetics.washington.edu/felsenstein.html)) and English ([identified on his blog](http://boundedtheoretics.blogspot.com/) as a computer scientist in Oklahoma City) raise a number of objections. However, their objections are directed against an argument we do not make. In fact, regarding the conclusion of conservation of information, they are in agreement with us.

To put the subject in a specific context, consider the example of birds. Birds are biological marvels. They are in constant struggle against the laws of physics. Entropy is perpetually trying to break birds apart, but they remain alive. A chaotic environment tries to prevent successful reproduction, yet birds reproduce copiously. Gravity tries to keep birds on the ground, yet they fly. This is not to say that birds violate the laws of physics; rather, they live, reproduce, and fly even though the laws of physics make these tasks rather difficult.

Clearly, some configurations of matter are birds. However, almost all configurations of matter are not birds. If one were to pick randomly from all possible configurations of matter, the probability of obtaining a bird would be infinitesimally small. It is almost impossible to obtain a bird by random sampling uniformly from all configurations of matter.

However, birds actually do exist. Given the essentially zero probability of such a configuration of matter, how could this happen? Considered in a materialist framework, the only possibility of explaining the origin of birds is a bird-making machine, process, or search. Something has to be in operation that greatly increases the probability of birds. The Darwinist will identify this process with Darwinian evolution.

The use of the term "search" has led some to argue over whether or not Darwinian evolution can be considered a search. After all, Darwinian evolution is not a teleological\* process and does not search for a goal. However, all that we mean by search is a process that can be represented as a probability distribution. That means that all processes reducible to chance and necessity qualify as searches.

Whatever search or process might be in play, it must be highly biased towards producing birds. That is, it produces birds much more often than chance would otherwise lead us to predict. It is this bias towards producing a bird that we call active information.

One might ask, why birds? Birds are, in this discussion, thus far the target. By "target," we do not mean something for which the search is actively looking. Recall that the only requirement of the search is that it be representable as a probability distribution. The target plays no role in what constitutes a search; rather, the target only features in the context of measuring the active information in a search. The target is effectively the measuring stick. The choice of target is arbitrary, and I could have as easily chosen cities, paintings, beetles, cows, volcanoes, mountains, lakes, or crystals. The same conclusion applies to all of them: they show up far more often than chance would lead us to expect. Within a materialist framework, they have to be explained by a process biased in favour of producing them.

Remember, we began by noting that birds are rather improbable configurations of matter. Advocates of Darwinian theory postulate **unguided evolution** as a search process to account for this improbable configuration. What about the configuration of the process itself? While some processes are biased towards birds, many others are biased towards other configurations of matter. In fact, a configuration biased towards producing birds is at least as improbable as birds themselves, possibly more so.

Having postulated Darwinian evolution, the improbability of birds hasn't gone away; we've merely switched focus to the improbability of the process that produced birds. Instead of having to explain the configuration of a bird, we have to explain the configuration of a bird-making process. It will not do any good to postulate additional processes that produced the first process, as they will face the same problem. Ultimately, the fact that birds exist has to be explained in terms of the initial configuration of the universe. The universe must have begun with a large amount of active information with respect to the target of birds.

Felsenstein and English argue against the idea that high active information of the original universe points to fine-tuning by a designer. Replying to Dembski, Marks, and myself, they write:

In their argument it is implied that the improved success is due to some Designer having made choices that built that information in.

In response, they point to natural selection and smooth fitness landscapes, arguing:

So these two effects do not require any intervention of a Designer, just the presence of genotypes that have fitnesses, and the action of ordinary laws of physics.

They dismiss any attempt to argue for the design of the universe on the basis of this active information:

Arguing whether a Designer has acted by setting up the laws of physics themselves is an argument one should have with cosmologists, not with biologists.

However, what they are doing here is criticizing an argument they take to be implied in our work, not an argument we have actually presented. In his [previous response to Felsenstein](http://www.evolutionnews.org/2014/10/responding_to_m090271.html), William Dembski wrote:

Marks and I do think that insofar as evolutionary processes produce specified complexity, this is ultimately due to a designer fine-tuning the evolutionary process. But our actual work on Conservation of Information only shows that any evolutionary theory is necessarily incomplete and cannot account for the creation of the information that the evolutionary processes limned by the theory supposedly outputs.

The conservation of information does not imply a designer. It is not a fine-tuning argument. It is not our intent to argue that all active information derives from an intelligent source. To do any of those things, we'd have to introduce metaphysical assumptions that our critics would be unlikely to accept. Conservation of information shows only that whatever success evolutionary processes might have, it is due either to the original configuration of the universe or to design.

We argue that Darwinian evolution is incomplete. For advocates of Darwinian and design theories alike, the aim is to explain the complexity of biological life. Darwinian evolution does not explain the complexity of biological life because its success or failure depends on the fitness landscapes it operates on. To make it complete, the theory would have to include the nature of the fitness landscapes that make the evolutionary process work. Darwinian evolution is only part of a theory of the explanation of biological complexity.

Darwinian evolution is often presented as though it were a complete explanation of how biological complexity arises. Defenses of Darwinian evolution, in particular those directed at lay audiences, defend the idea that selection, replication, and mutation is all that is necessary to produce complexity. There is very little mention of the type of universe that is necessary for Darwinian evolution to work. If anything, the presumption is that natural selection will work its magic no matter what physics looks like.

However, some Darwinists do realize the necessity of expanding the theory of evolution to include assumptions about the nature of the fitness landscape. For example, Andreas Wagner, in *The Arrival of the Fittest*, spends his time explaining not the process of Darwinian evolution but the reason why fitness landscapes are suitable for Darwinian evolution.

Felsenstein and English argue along similar lines. They point to the weakness of long-range physics effects to produce what they argue will be a good landscape for Darwinian evolution. Wagner, English, and Felsenstein thus actually accept the conclusion of conservation of information. It is not sufficient to invoke the three-fold incantation of selection, replication, and mutation. You must also assume a suitable fitness landscape. You have to appeal to something beyond Darwinism, such as laws or self-organization, to account for a useful fitness landscape. For now, I leave aside the question of whether the explanations so proposed actually produce a fitness landscape good enough for Darwinian evolution to account for biological complexity.

What remains to ask is whether or not any of these explanations of the fitness landscape actually work. To that, conservation of information provides no answer. That does not mean intelligent design advocates have been silent on the question. Dembski argues in *No Free Lunch* that any fitness landscape that can account for life would have to be a "finely crafted assemblage." Behe has argued that irreducibly complex structures are almost impossible for Darwinian evolution to produce. Doug Axe has argued that functional proteins are too rare and too different for evolution to evolve. In a variety of ways, intelligent design advocates have argued that fitness landscapes aren't suitable for Darwinian evolution.

Felsenstein and English, far from expressing a critique that does any damage to conservation of information, have in fact agreed with it. Conservation of information shows that either design or the original configuration of the universe must account for the complexity of life. This indicates that Darwinian evolution by itself is an incomplete explanation of biological complexity. Advocates on either side of the debate must appeal to something additional in order to explain biological complexity.

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Definition of TELEOLOGY. 1. a : the study of evidences of design in nature b : a doctrine (as in vitalism) that ends are immanent in nature c : a doctrine explaining phenomena by final causes. 2. : the fact or character attributed to nature or natural processes of being directed toward an end or shaped by a ...